

REMARKS:**General**

By the above amendment the Applicant has provided some written explanations that more clearly describe the nature of the invention, and more clearly show its inventive nature with respect to prior art. The amendment does not add new matter to the specification, because it only more explicitly describes what was graphically shown in the patent application.

Analysis of the Office Action dated on 11/04/2011

The two main references pointed to by the Examiner are Jenks (US 6,610,106) and Kearns (US 2004/0104945)

In general terms, as discussed in the telephone interview held on XXX, the current invention is not similar to the previous two references. The differences are described in what follows:

Differences between the current invention and the Jenks patent

Applicant would like to point out that Jenks never shows an arboreal representation of a mathematical expression. It shows expressions only in the same format as they are shown in any text book. Then, it uses trees for internally applying the algorithms that analyze the expression, but this is done in internal computations, covert to the user.

In fact, analyzing mathematical expressions in tree fashion is something that has been done long time ago. For example, that form of analysis is the described in Banning (US 5,471,613), which was considered prior art to a previous version of the claim set in the current patent.

In contrast to Jenks, the current patent does show expressions to the user in the form of a tree. And it does so in a very specific form that is different from prior art.

Differences between the current invention and the Kearns patent

The Kearns application does not show expression in the form of a tree, either. It shows a tree, whose nodes are expressions or numerical values of expressions.

The main difference with the current invention is that it never decomposes an expression into its constituent parts and it never arranges said parts in tree fashion.

Differences between the current invention and other patents

In what follows, a brief summary is given of the differences between the current patent and several patents

1. *Differences with the Li patent (US 5,911,138)*. As has been mentioned in other Amendments, the main difference with the Li patent is that the Li patent shows a tree whose nodes are expressions, but in the current invention, the nodes of the tree are fragments of an expression.
2. *Differences with the Banning patent (US 5,471,613)*. The Banning patent shows an expression in the form of a tree, but it does not show a given fragment in two nodes, one of them being ancestor to the other one.
3. *Differences with the Coden patent (US 6,263,328)*. As with the Banning patent, the Coden patent also shows an expression in the form of a tree, but it does not show a given fragment in two nodes, one of them being ancestor to the other one.

Outline of the amendments

After the aforementioned interview, it was agreed with the Examiner that the Applicant would rewrite several claims (10,11,12 and 40) so that they more clearly describe the nature of the invention.

Also, the Applicant mentioned in said interview that he would amend independent claims 1 and 19 to more succinctly claim the invention.

Besides that, the Applicant has added two new claims to provide the method claims of two system claims.

Description of Current Actual Amendments to the Claims

Four claims have been amended, as described below:

Amendment to Claim 1 (and Claim 19)

(As suggested by the title, this amendment is replicated in method version Claim 19)

The amendments performed are the following:

1. Modifying some initial characteristics

Some means related to editing have been removed from this claim, and have been added to claim 2.

2. Modifying the numbering in the second list

List indices "(a)" and "(b)" have been replaced by "(i)" and "(ii)"

3. Deleting this paragraph: “in such a way that at least two different subexpressions of said expression are assigned to two different nodes of said tree.”

This paragraph is deleted because it is already implicitly contained in paragraph (ii) where it says “one fragment of said calculation expression is shown in two different nodes of said tree”. The reason is that the first node contains the fragment of the second node, plus additional fragments. And this means that at least two fragments are assigned to two different nodes.

4. Deleting this paragraph: “[c] at least one node shows only an introduced subexpression, wherein an introduced subexpression is a subexpression which is introduced by an operator, wherein said operator indicates how the content of the node is to be compounded with other nodes in the tree to yield the whole expression or another subexpression of higher order.]”

This paragraph was originally intended to more clearly show the differences with Li (US 5,911,138), but the Applicant has realized that it is actually not necessary, because of the following two reasons:

- (a) Li does not show an expression in the form of a tree, i.e. a tree whose nodes are sorted fragments of a calculation expression. But rather it shows a tree whose nodes are full expressions itself.
- (b) The paragraph (ii) in this claim already teaches away from Li, because it does not happen in the Li patent that a node contains the content of a descendent node plus additional fragments of an expression.

5. Inserting some amendments in paragraph (ii)

Some words have been replaced by others, to more clearly explain the relationship between the two nodes that contain the same fragment of the calculation expression.

Amendment to Claim 2 (and method Claim 20)

This amendment simply clarifies the means used for editing (and the steps for Claim 20)

Deletion of Claim 6

This claim has been deleted, because the Applicant found that it was breaking unity of invention.

Amendment to Claim 10

The claim has been reworded to more clearly describe its content. The technical name of the feature has been replaced by a succinct but clear description. The technical name is GROUPING OF PEERS and a longer description is given in the Specification, in page 15.

Amendment to Claim 11 (and method Claim 46)

The claim has been reworded to more clearly describe its content. The technical name of the feature has been replaced by a succinct but clear description. The technical name is SEQUENCIATION OF NON ASSOCIATIVE OPERATORS and a longer description is given in the Specification, in page 15.

Amendment to Claim 12 (and method Claim 30)

The claim has been reworded to more clearly describe its content. The technical name of the feature has been replaced by a succinct but clear description. The technical name is EXPLICATIVE TEXT and a longer description is given in the Specification, in page 15.

Amendment to Claim 40 (and method Claim 42)

The claim has been reworded to more clearly describe its content. The technical name of the feature has been replaced by a succinct but clear description. The technical name is PARTIAL RESULTS and a longer description is given in the Specification, in page 16.

New Claim 45

This claim has been added to support claims 10 and 11. It claims a warning system that can be applied in conjunction to both claims 10 and 11. It is based on paragraphs in the Specification.

New Claim 46

This claim has been added to provide the method version of Claim 11.

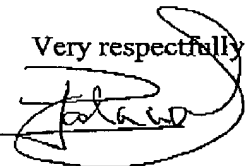
CONCLUSION

For all the above reasons, Applicant submit that the specification and claims are now in proper form, and that the claims define all define patentably over the prior art. Therefore they submit that this application is now in condition for allowance, which action they respectfully solicit.

Conditional Request for Constructive Assistance

Applicant has amended the specification of this application so that they are proper, definite and define novel structure which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, applicant respectfully request the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. §2173.02 and §707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully



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Certificate of Facsimile Transmission: I certify that on the date below I will fax this paper to GAU 2169 of the U.S. Patent and Trademark Office at 571-273-8300.

2011 September 10

Signed by: Angel Palacios

Signature

